

P#10

1645

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/508,967

DATE: 02/27/2001
TIME: 15:30:51

Input Set : A:\45359676.app
Output Set: N:\CRF3\02272001\I508967.raw

3 <110> APPLICANT: WAHLGREN, MATS
4 BARRAGAN, ANTONIO
5 CARLSON, JOHAN
6 QIJUN, CHEN
7 FERNANDEZ, VICTOR
9 <120> TITLE OF INVENTION: MALARIA POLYPEPTIDES
11 <130> FILE REFERENCE: 45300-59676
13 <140> CURRENT APPLICATION NUMBER: 09/508,967
14 <141> CURRENT FILING DATE: 2000-04-07
16 <150> PRIOR APPLICATION NUMBER: PCT/SE98/01675
17 <151> PRIOR FILING DATE: 1998-09-18
19 <160> NUMBER OF SEQ ID NOS: 10
21 <170> SOFTWARE: PatentIn Ver. 2.1
23 <210> SEQ ID NO: 1
24 <211> LENGTH: 2228
25 <212> TYPE: PRT
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MAR 07 2001

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101      20          25          30
103 Glu Ala Lys Asn Tyr Val Ser Glu Leu Lys Gly Ser Leu Ser Leu Ala
104      35          40          45
106 Ser Ile Leu Gly Glu Thr Ala Phe Thr Val Lys Ser Met Gln Thr Glu
107      50          55          60
109 Ser Lys Tyr Thr Glu Leu Ile Glu Ala Asn Ser Lys Arg Asn Pro Cys
110      65          70          75          80
112 Lys Lys Asp Gly Lys Gly Asn Asp Val Asp Arg Phe Ser Val Lys Glu
113      85          90          95
115 Gln Ala Gly Tyr Asp Asn Lys Lys Met Lys Cys Ser Asn Gly Met Thr
116      100         105         110
118 Cys Ala Pro Phe Arg Arg Leu His Leu Cys Asn Lys Asn Phe Pro Asn
119      115         120         125
121 Met Asn Ser Asn Asp Ser Ser Lys Ala Lys His Asp Leu Leu Ala Glu
122      130         135         140
124 Val Cys Met Ala Ala Lys Tyr Glu Gly Glu Ser Ile Lys Thr His Tyr
125 145      150         155         160
127 Pro Lys Tyr Asp Ser Lys Tyr Pro Gly Ser Asp Phe Pro Met Cys Thr
128      165         170         175
130 Met Leu Ala Arg Ser Phe Ala Asp Ile Gly Asp Ile Ile Arg Gly Arg
131      180         185         190
133 Asp Leu Tyr Leu Gly Asn Lys Lys Lys Lys Gln Asn Gly Lys Glu Thr
134      195         200         205
136 Glu Arg Glu Lys Leu Glu Gln Lys Leu Lys Glu Ile Phe Lys Lys Ile

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137	210	215	220
139	His Asp Asn Ieu Lys Asp Lys Glu Ala Gln Lys Arg Tyr Asn Gly Asp		
140	225	230	235
142	Glu Asp Pro Asn Phe Tyr Lys Leu Arg Glu Asp Trp Trp Thr Ala Asn		240
143	245	250	255
145	Arg Glu Thr Val Trp Gly Ala Met Thr Cys Ser Lys Glu Leu Asp Asn		
146	260	265	270
148	Ser Ser Tyr Phe Arg Ala Thr Cys Asn Asp Thr Gly Gln Gly Pro Ser		
149	275	280	285
151	Gin Thr His Asn Lys Cys Arg Cys Asp Lys Asp Lys Gly Ala Asn Ala		
152	290	295	300
154	Gly Lys Pro Lys Ala Gly Asp Gly Asp Val Thr Ile Val Pro Thr Tyr		
155	305	310	315
157	Phe Asp Tyr Val Pro Gln Tyr Leu Arg Trp Phe Glu Glu Trp Ala Glu		320
158	325	330	335
160	Asp Phe Cys Arg Lys Lys Lys Lys Leu Glu Asn Leu Glu Lys Gln		
161	340	345	350
163	Cys Arg Gly Lys Asp Lys Ser Asp Glu Tyr Arg Tyr Cys Ser Arg Asn		
164	355	360	365
166	Gly Tyr Asp Cys Glu Gln Thr Ile Ser Arg Lys Gly Lys Val Arg Met		
167	370	375	380
169	Gly Lys Gly Cys Thr Asp Cys Phe Phe Ala Cys Gly Ser Tyr Glu Asn		
170	385	390	395
172	Trp Ile Asp Asn Gln Arg Lys Gln Phe Asp Lys Gln Lys Lys Tyr Thr		
173	405	410	415
175	Lys Glu Ile Ser Asp Gly Gly Arg Lys Lys Arg Ala Val Gly Gly		
176	420	425	430
178	Thr Thr Lys Tyr Glu Gly Tyr Glu Lys Ser Phe Tyr Glu Lys Leu Lys		
179	435	440	445
181	Asn Asp Gly Tyr Gly Thr Val Asp Ala Phe Leu Gly Leu Leu Asn Asn		
182	450	455	460
184	Glu Lys Ala Cys Lys Asp Ile Thr Asp Gly Gly Lys Ile Asn Phe Lys		
185	465	470	475
187	Glu Val Asn Ser Gly Gly Val Val Gly Gly Ser Gly Gly Thr		480
188	485	490	495
190	Ser Gly Ala Ser Gly Thr Asn Asp Glu Asn Lys Gly Thr Phe Tyr Arg		
191	500	505	510
193	Ser Glu Tyr Cys Gln Pro Cys Pro Asp Cys Gly Val Gln His Lys Gly		
194	515	520	525
196	Gly Asn Gln Trp Glu Arg Lys Thr Lys Val Lys Lys Met Arg Trp Ser		
197	530	535	540
199	Lys Leu Tyr Lys Pro Ile Asn Gly Lys Met Val Leu Leu Lys Ser		
200	545	550	555
202	Leu Lys Val Val Lys Asp Met Met Ile Leu Lys Lys Asn Trp Lys Glu		560
203	565	570	575
205	Phe Cys Leu Thr Gln Asn Ser Ser Asp Gly Ser Val Gly Ser Val Val		
206	580	585	590
208	Thr Thr Gly Ala Ser Gly Gly Asn Ser Glu Lys Lys Glu Leu Tyr Asp		
209	595	600	605

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211 Glu Trp Lys Cys Tyr Lys His Asn Glu Val Gln Lys Val Asn Val Gln
 212 610 615 620
 214 Gly Glu Val Glu Glu Asp Asp Asp Glu Leu Lys Gly Ala Gly Gly Leu
 215 625 630 635 640
 217 Cys Ile Leu Pro Asn Pro Lys Lys Asn Lys Glu Val Ser Glu Ala Lys
 218 645 650 655
 220 Ser Gln Asn Asn His Ala Asp Ile Gln Lys Thr Phe His Asp Phe Phe
 221 660 665 670
 223 Tyr Tyr Trp Val Ala His Met Leu Lys Asp Ser Ile His Trp Arg Thr
 224 675 680 685
 226 Lys Arg Leu Lys Ser Cys Ile Ser Asp Gly Lys Thr Met Lys Cys Arg
 227 690 695 700
 229 Asn Gly Cys Asn Lys Lys Cys Asp Cys Phe Glu Lys Trp Val Lys Gln
 230 705 710 715 720
 232 Lys Glu Thr Glu Trp Lys Pro Ile Lys Asp His Phe Lys Thr Gln Glu
 233 725 730 735
 235 Gly Ile Pro Glu Gly Tyr Tyr Phe Thr Thr Leu Glu Leu Ile Leu Lys
 236 740 745 750
 238 Leu Gln Phe Leu Lys Glu Asp Thr Glu Glu Asn Thr Glu Asn Ser Leu
 239 755 760 765
 241 Asp Ala Glu Glu Ala Glu Glu Leu Lys His Leu Gln Lys Ile Leu Lys
 242 770 775 780
 244 Leu Glu Asn Glu Asn Asn Leu Ala Val Val Asn Ala Gly Thr Glu Gln
 245 785 790 795 800
 247 Lys Thr Leu Met Asp Lys Leu Leu Asn His Glu Leu Asn Asp Ala Thr
 248 805 810 815
 250 Lys Cys Lys Asp Cys Pro Leu Pro Glu Glu Asp Lys Ser Arg Gly Arg
 251 820 825 830
 253 Ser Ala Asp Pro Ser Pro Asp Ile Phe Ile Pro Arg Pro Glu Glu Lys
 254 835 840 845
 256 Glu Asp Asp Glu Asn Glu Asp Asp Glu Asp Glu Val Arg Asp Asp
 257 850 855 860
 259 Glu Glu Thr Ala Lys Glu Thr Thr Glu Gly Ser Ala Thr Asp Thr Thr
 260 865 870 875 880
 262 Thr Ser Leu Asp Val Cys Pro Ile Val Gly Lys Val Leu Thr Lys Asp
 263 885 890 895
 265 Asn Glu Ser Leu Gln Asp Ala Cys Ser Leu Lys Tyr Gly Gly Asn Asn
 266 900 905 910
 268 Ser Arg Leu Gly Trp Arg Cys Val Thr Pro Ser Gly Glu Pro Thr Thr
 269 915 920 925
 271 Ser Ser Asp Lys Asn Gly Ala Ile Cys Val Pro Pro Arg Arg Arg Arg
 272 930 935 940
 274 Leu Tyr Ile Lys Lys Ile Val Asp Trp Ala Thr Lys Thr Glu Ser Pro
 275 945 950 955 960
 277 Gln Ala Ser Gly Ser Glu Ala Ser Ser Thr Ser Gly Ser Thr Thr Pro
 278 965 970 975
 280 Pro Asp Ser Lys Glu Ala Leu Leu Lys Ala Phe Val Glu Ser Ala Ala
 281 980 985 990
 283 Ile Glu Thr Phe Phe Leu Trp His Arg Tyr Lys Glu Glu Lys Lys Ala

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287      1010      1015      1020
289 Ser Pro Glu Tyr Asp Pro Glu Asp Lys Leu Lys Glu Gly Lys Ile Pro
290 1025      1030      1035      1040
292 Asp Gly Phe Leu Arg Gln Met Phe Tyr Thr Leu Gly Asp Tyr Arg Asp
293      1045      1050      1055
295 Ile Leu Phe Ser Gly Ser Asn Asp Thr Thr Ser Val Ser Lys Asp Thr
296      1060      1065      1070
298 Pro Ser Ser Asn Asp Asn Leu Lys Asn Ile Val Leu Leu Ala Ser
299      1075      1080      1085
301 Gly Ser Thr Glu Gln Glu Arg Glu Lys Met Asn Lys Tyr Lys Glu Ile
302      1090      1095      1100
304 Lys Asn Phe Arg Lys Cys Ser Thr Glu Arg Ser Ala Pro Asn Leu Val
305 1105      1110      1115      1120
307 Ser His Pro Gln Thr Trp Trp Glu Asn Asn Gly Lys Tyr Ile Trp His
308      1125      1130      1135
310 Gly Met Val Cys Ala Leu Thr Ser Lys Asp Lys Ile Ala Lys Gly Val
311      1140      1145      1150
313 Glu Lys Lys Pro Gln Lys Ile Glu Asn Pro Glu Asn Leu Trp Asp Glu
314      1155      1160      1165
316 Ala Asn Lys Lys Pro Lys Pro Pro Gln Tyr Gln Tyr Thr Asn Val Lys
317      1170      1175      1180
319 Leu Asp Glu Asn Ser Gly Thr Ser Pro Arg Thr Thr Gln Ala
320 1185      1190      1195      1200
322 Ser Ser Asp Asn Thr Pro Thr Thr Leu Thr His Phe Val Lys Arg Pro
323      1205      1210      1215
325 Thr Tyr Phe Arg Trp Phe Glu Glu Trp Gly Glu Ser Phe Cys Arg Glu
326      1220      1225      1230
328 Arg Lys Lys Arg Leu Lys Gln Ile Lys Val Asp Cys Lys Val Glu Asn
329      1235      1240      1245
331 Gly Asp Val Gly Arg Cys Ser Gly Asp Gly Glu Ala Cys Asp Ser Ile
332      1250      1255      1260
334 Ser Thr His Asp Tyr Ser Thr Val Pro Ser Phe Asn Cys Pro Gly Cys
335 1265      1270      1275      1280
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338      1285      1290      1295
340 Glu Phe His Lys Gln Ser Asn Ala Tyr Gly Gln Gln Lys Thr Asp Ala
341      1300      1305      1310
343 Thr Arg Asn Asn Gly Asn Thr Phe Asp Lys Glu Phe Cys Lys Thr Leu
344      1315      1320      1325
346 Glu Thr Trp Pro Asp Ala Ala Lys Phe Leu Glu Arg Leu Lys Asn Gly
347      1330      1335      1340
349 Pro Cys Lys Thr Asn Lys Glu Tyr Gly Gly Asp Asp Ile Asp Phe Glu
350 1345      1350      1355      1360
352 Lys Asp Ser Lys Thr Phe Gln His Thr Glu Tyr Cys Gly Pro Cys Pro
353      1365      1370      1375
355 Lys Phe Lys Thr Asn Cys Gln Asn Gly Asn Cys Gly Val Ser Gly Leu
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